SIEMENS

UROSKOP D

RL

Installation Instructions

Register 3

RLL5-310.031.01.02.02

English

Replaces: RLL5-310.031.01.01.02

01.93

Weitergabe sowie Vervielfältigung dieser Unterlage, Verwertung und Mitteilung ihres Inhalts nicht gestattet, soweit nicht ausdrücklich zugestanden. Zuwiderhandlungen verpflichten zu Schadenersatz. Alle Rechte für den Fall der Patenterteilung oder GM-Eintragung vorbehalten.

Proprietry data, company, confidential. All rights reserved.
Confie à titre de secret d'entreprise. Tous droits reserves.
Confiado como secreto industrial. Nos reservamos todos los derechos.

,,,,

		Page	Rev.
Cover sheet		1	01
Table of contents, revisions		2	01
1	**General information**		
	State on delivery, prerequisites and highlighting	1-1	02
	Designation of components and direction	1-2	01
	Important notes on installation	1-3	01
	Required	1-4	01
2	**Installation**		
	Basic unit	2-1	01
	Tube support arm	2-5	01
	Standard cabinets	2-7	01
3	**System cabling**		
	System overview	3-1	01
	General and important notes	3-2	01
	UROSKOP D3 cable connection table	3-3	01
	UROSKOP D2 cable connection table	3-5	01
	UROSKOP D1 cable connection table	3-7	02
4	**Cable connections in the power cabinet**	4-1	01
5	**Final work**		
	Miscellaneous	5-1	01
	Attaching the swivel frame panelling	5-2	01
	Attaching the lifting column panelling	5-4	01
	Attaching other panelling parts	5-7	01
	Checking the ground wire connections	5-8	01

State on delivery

- At the factory, the system has been preinstalled, programmed and checked as a whole system .
  The following startup and the function checks of the system are performed according to startup instructions RLL5-310.034.01.. .

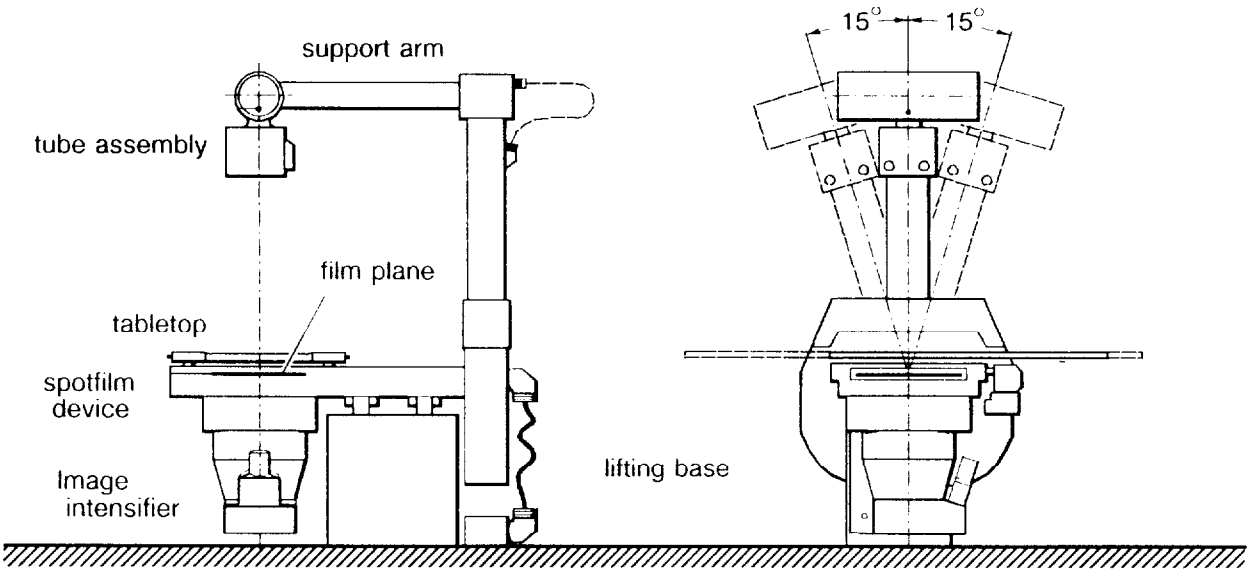
Prerequisites

- At the beginning of the installation, the power connection must be ready and equipped with system contactor, EMERGENCY SHUTDOWN button and leakage current safety switch according to planning guidelines RLL5-310.021.01...
- The type of current, the voltage and the frequency must correspond to the corresponding measured values of the test certificate, RLL5-310.035.01...
- The fastening devices of the unit to the floor (Liebig anchor bolts / bottom plate) must be in place according to planning guidelines RLL5-310.021.01...
- The state of the transport routes within the buildings and the state and expansion of the operating room must correspond to the project drawings and the indications made in the "General installation and supply conditions - Medical Engineering Group - ".

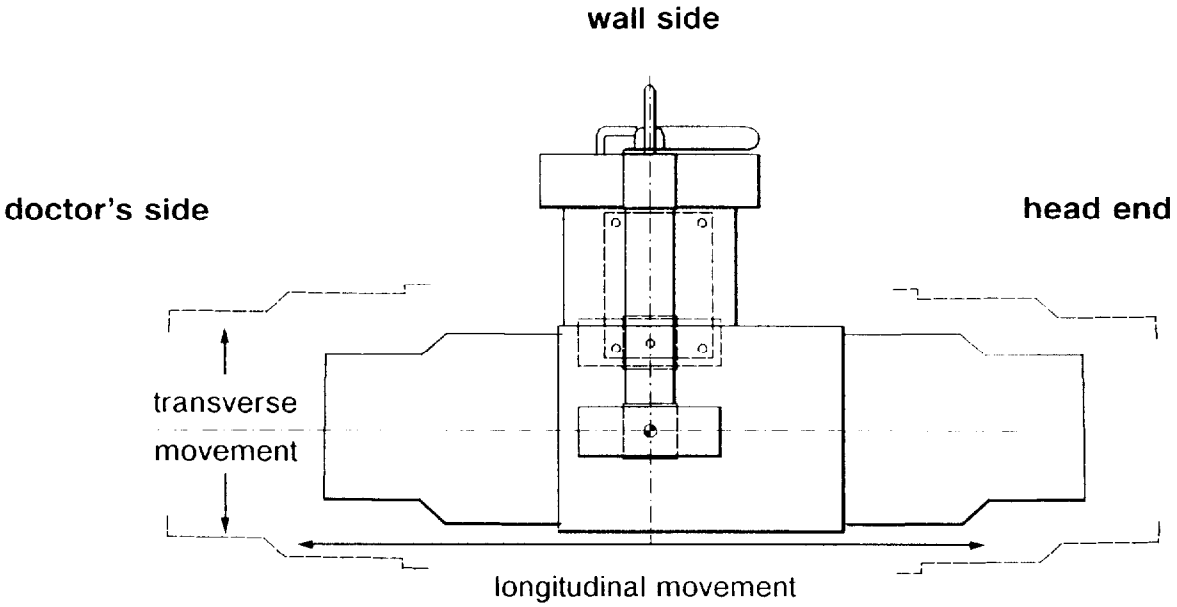
Highlighting

- All texts marked with *"**Attention!**"* contain danger notes and measures to prevent dangers.
- All texts marked with *"**Note:**"* contain additional information on the following operating sequence which serves for a better understanding or to prevent unnecessary and avoidable difficulties.
- **All texts, adjustments or installation steps marked with the sign " ≫ " must be confirmed by the service contractors in the installation certificate.**

Designation of components



Designation of direction



Connection

Connect rotating anode cables according to information:
"stator connection", MF file R71-020.

Connect high voltage cables according to information: "Overview and regulations for high voltage cables and sealing ends" . MF file R98-031.

Connect highly insulated measuring leads according to information: "Treatment of highly insulated cables".
MF file RA0-10.

Red painted parts

All **red** painted parts on the unit and subassemblies are transport safety devices which may be removed only according to instructions.

Cleaning

it is essential to switch off or disconnect the unit before cleaning.
Clean the unit only with a cloth soaked with cleaning agents.
For further information, see operating manual "Cleaning/disinfection".

Delivery

Technical documents

Documents

Wiring diagram	
Planning guidelines PG	RLL5-310.021.01...

Measuring equipment

Torque wrench (20 to 100 Nm)	Part no. 44 30 906 RH 090
Spirit level	Part no. 28 99 441 RE 002
Angle spirit level	Part no. 28 69 436 RE 999

Lubricant

Optimol Longtime PD2	Part no.34 91 271 SRN 30022

Installation tools

Transport carriage	Part no. 97 84 505 G5353
Installation lift for MTS I (as 3DIII)	Part no. 87 63 872 G2122

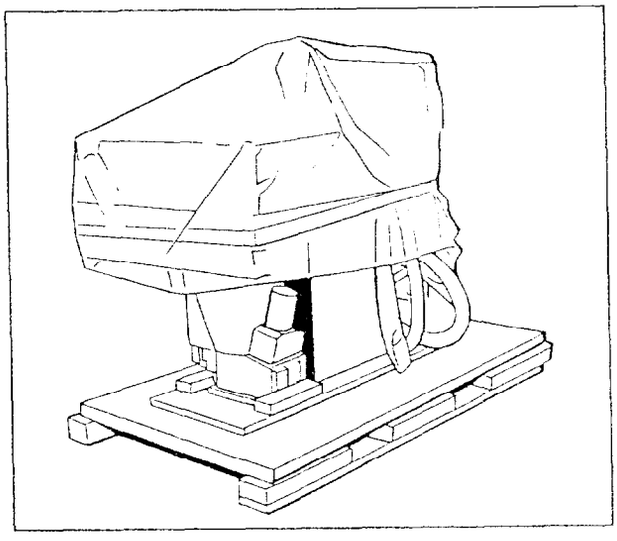


Fig.1

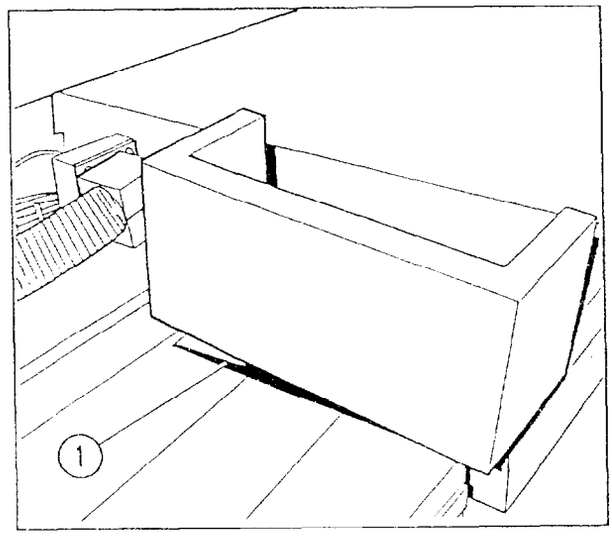


Fig.2

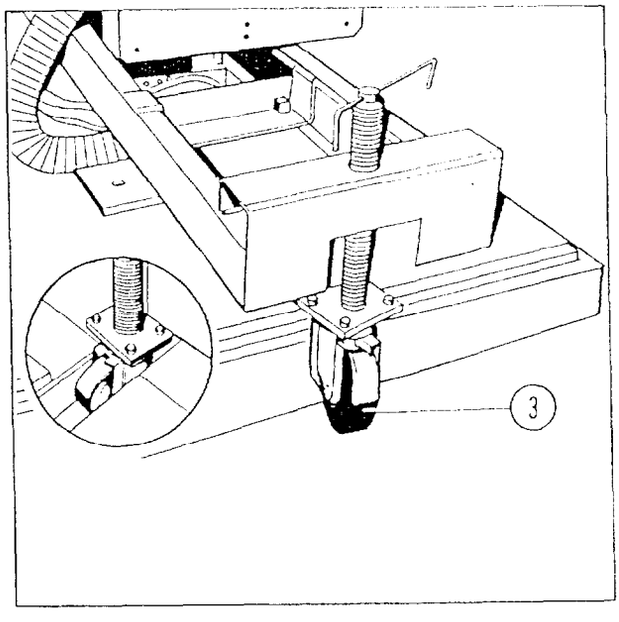


Fig.3

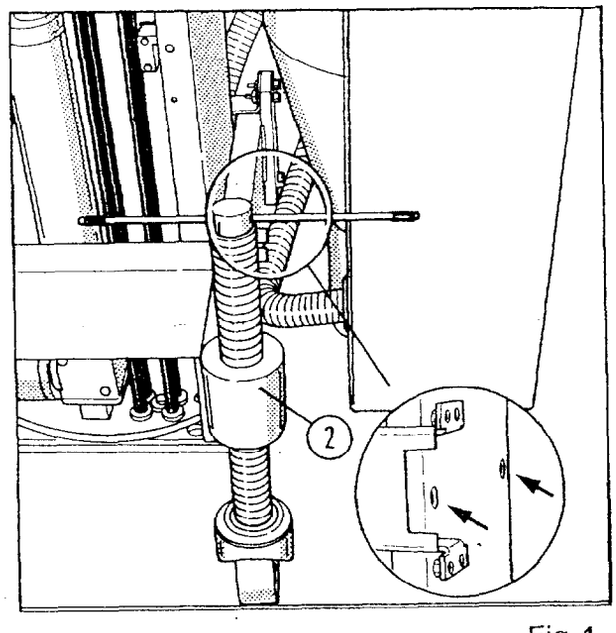


Fig.4

≫ • Remove the side panels and the cover of the transport box, if provided (Fig.1).

≫ • Remove the support box (1/Fig.2) above the recess of the transport pallet and prepare for further use.

≫ • Attach the fork-type part of the transport trolley with the single transport roller (3) to the unit according to Fig. 3;
align the transport roller (3) in the recess according to the figure.

≫ • Attach the trolley part with the two transport rollers (2/Fig.4) to the fork-type part of the transport trolley using 8 Allen screws;
the four pins of the two transport trolley parts must lock in the corresponding holes (↙) on the unit (detail/Fig.4).

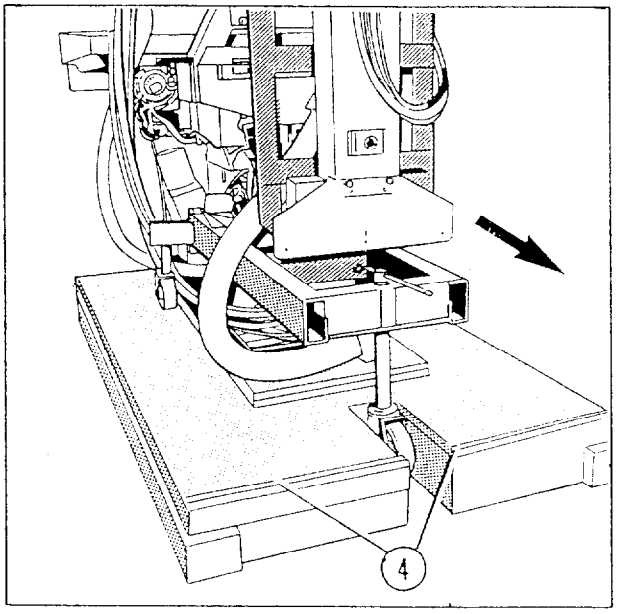


Fig.5

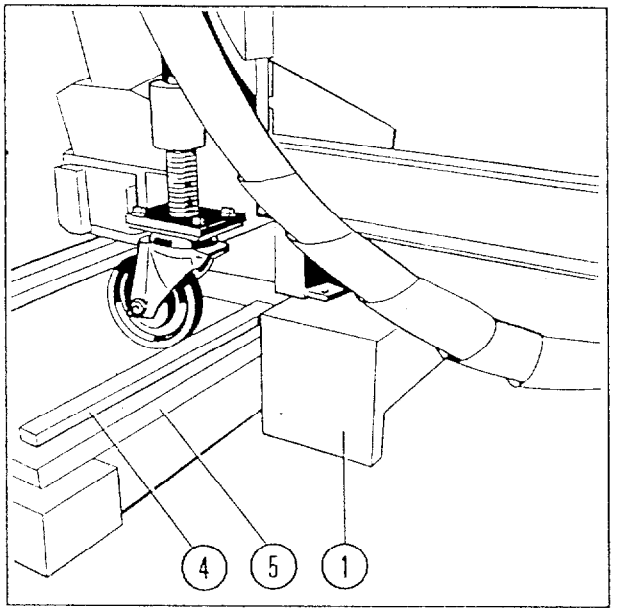


Fig.6

≫ • Lower all transport rollers by turning the spindle and slightly lift the unit.

≫ • Lower the unit with the transport frame from the pallet in the direction of the arrow according to Fig. 5 until the rear pair of wheels on the l.l. side comes on to the strip that has been fixed with nails (4/Fig.6).

≫ • Place the supplied support box (1/Fig.6) under the unit.

≫ • Using the two rear spindles on the l.l. side (2), lower the unit onto the support box (1) (Fig.6).

≫ • Remove the pallet (5).

≫ • Using the two spindles (2), lift the unit again and remove the support box (1) (Fig.6).

≫ • Using all spindles, lower the unit to approx. 3 cm above floor.

≫ • Transport the unit to the installation site.

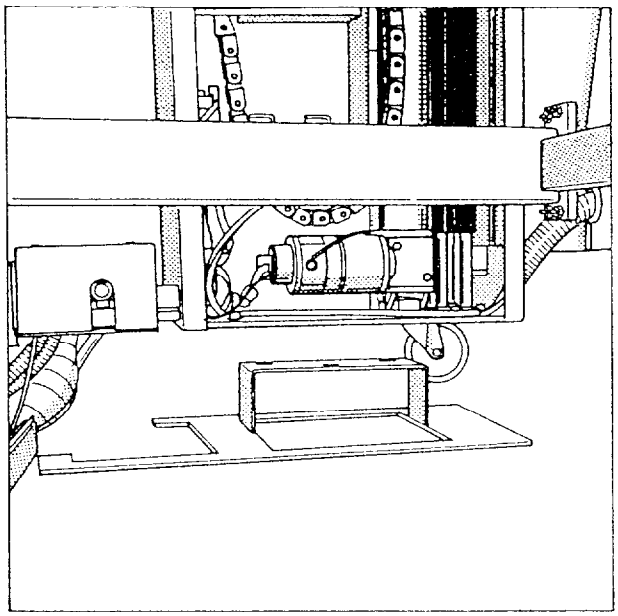


Fig.7

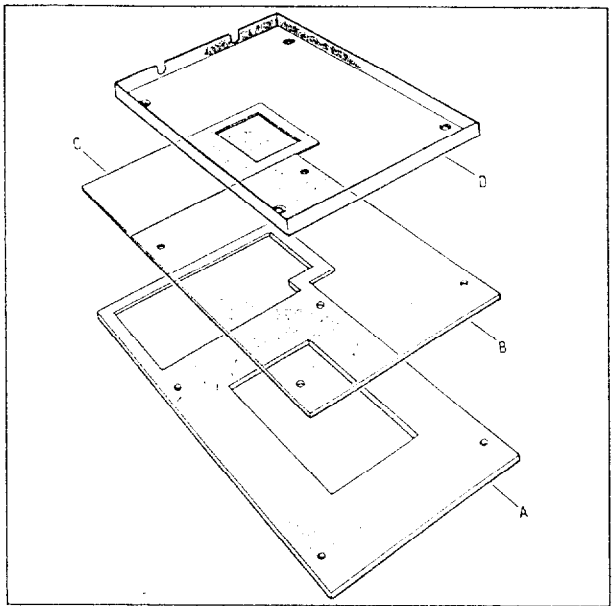


Fig.8

≫ ⚠ • Remove the transport securing device below the lifting column (Fig.7)!
Loosen 3 pcs. size 10 Allen screws from below.

≫ • Place the two insulating plates (B and C) from the installation set on the dowels or on the bottom plate (A) (Fig.8).

≫ • Lay the floor tray (D/Fig.8) on the larger of the two insulating plates so that the threads of the bottom plate/dowels lie open.

≫ • Move the unit with the transport trolley above the installation site.

≫ • Carefully position the unit over the bottom plate or over the fastening dowels and lower into the floor tray with the transport trolley spindles.

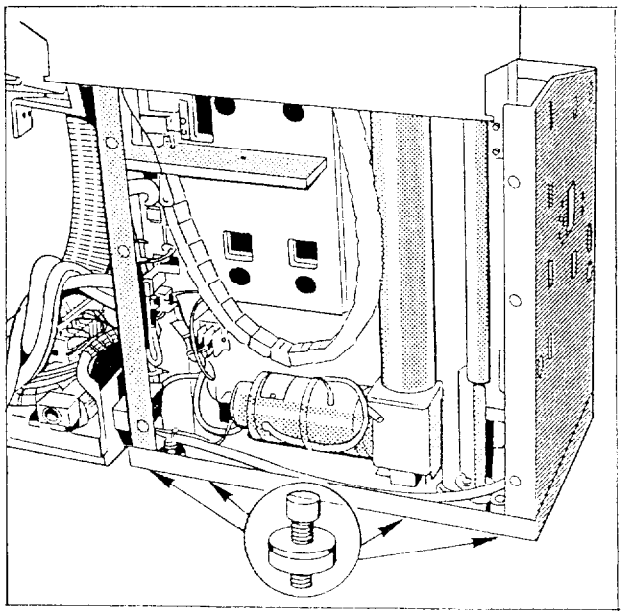


Fig.9

≫ • Attach the lifting base of the basic unit to the floor by using the supplied insulating sleeves and plain washers (Fig.9).

Attention: *Ensure insulated installation!*

≫ • Detach the transport trolley.

Tube support arm

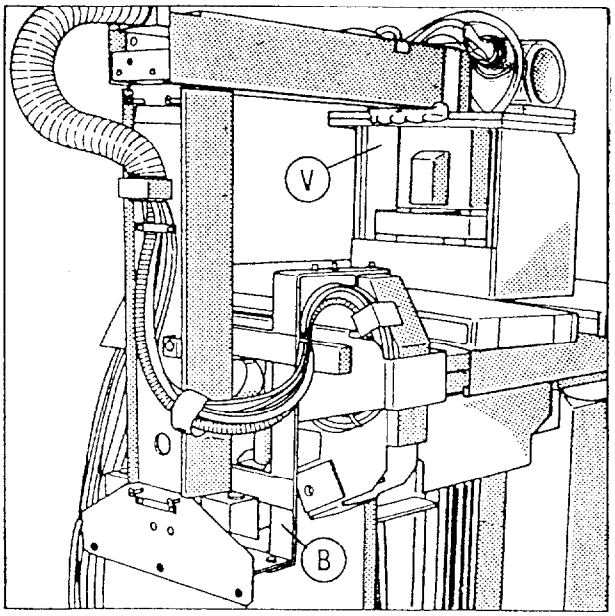


Fig.10

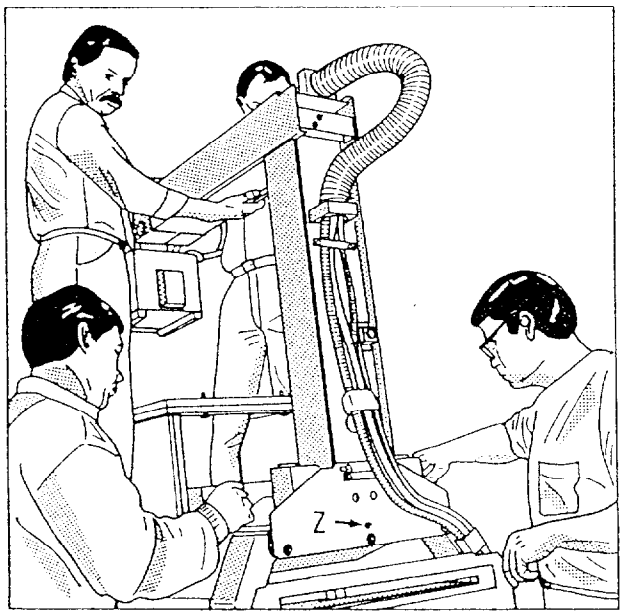


Fig.11

ATTENTION! For this, you need 4 persons for a short time!

≫ • Remove the carton with the cables from the tabletop.

≫ • Remove the transport safety bracket (B/Fig.10) from the tube assembly.

≫ • Loosen the tube support arm from the transport securing device (V/Fig.10).

≫ • Lift the tube support arm and attach it to the basic unit (Fig.11), let the guide pin (Z/Fig.11) engage in the hole of the tube support arm.

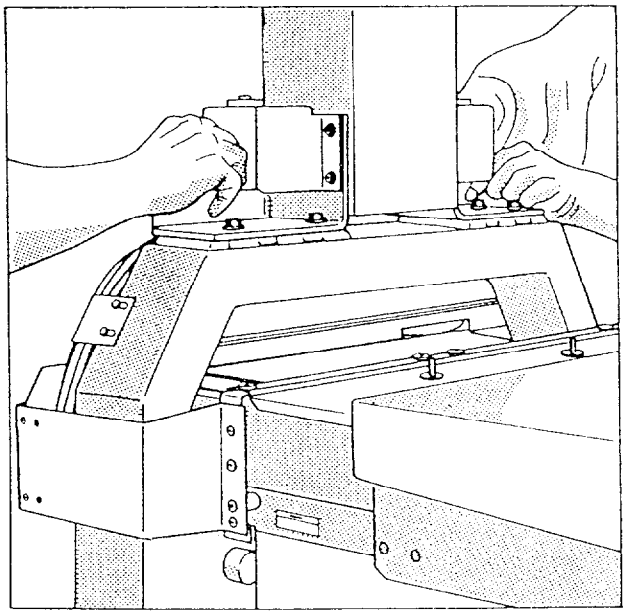


Fig.12

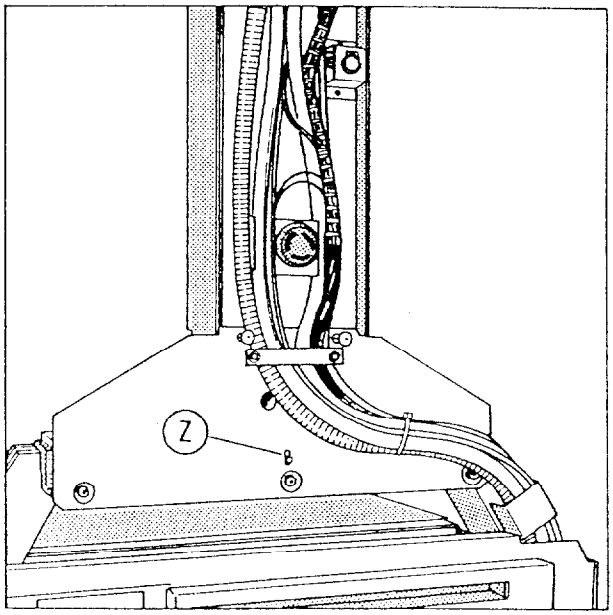


Fig.13

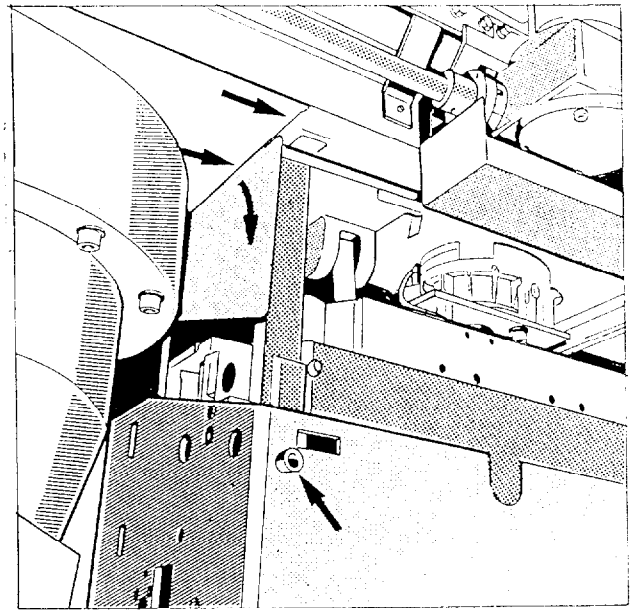
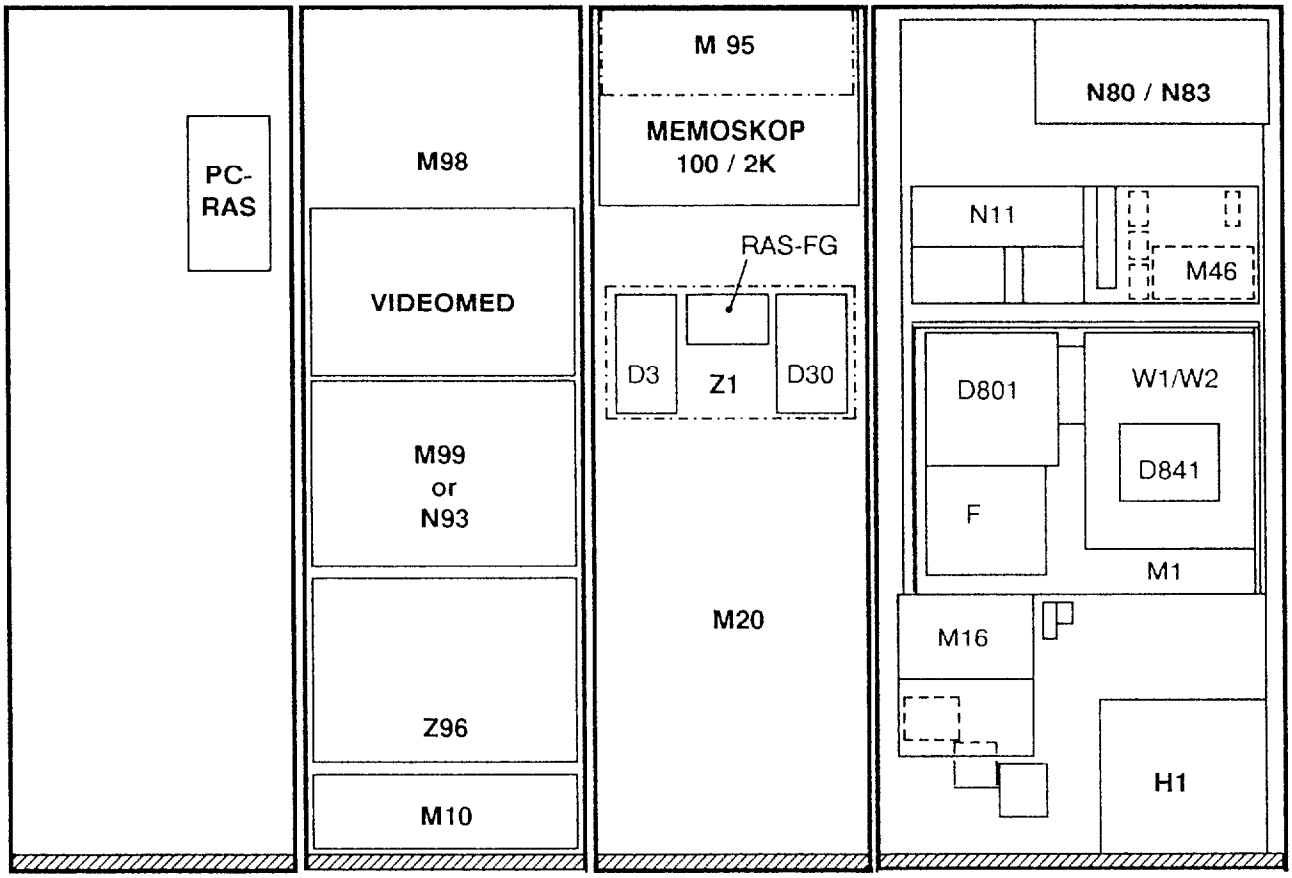


Fig.14

≫ • Fix the tube suport arm with eleven M8 Allen screws (Fig.12/Fig.13).

≫ • Remove the red transport securing device (↗/Fig.14) for table height fixation; to obtain better accessibility of the fastening screws, press down the connecting rod in front.



≫ • Install the rear cabinet panels and connect with the ground wires.

≫ • Remove the transport securing devices marked with red.

≫ • Place the cabinets according to installation plan: N1, Generator
N2, Unit control
additionally for UROSKOP D2 und D3: N3, I.I.-TV
additionally for UROSKOP D3: N4, Fluorospot

≫ • Fasten the top of thecabinets with the supplied retaining brackets to the wall to prevent the cabinets from tilting when the modules are swivelled out.

≫ • In addition, attach the cabinets to the floor, if necessary (see PG).

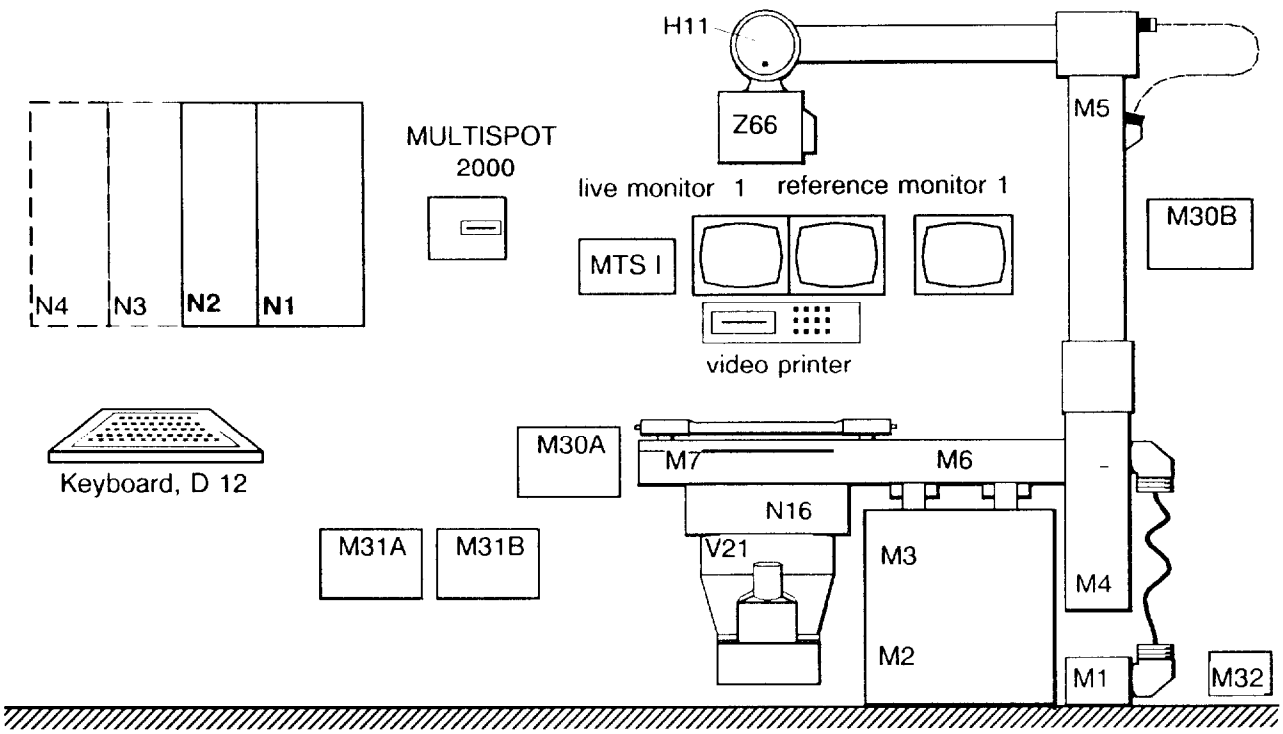
≫ • Within the area of validity of the DHHS regulations and the IEC 601 (VDE 0750), observe the following:
For reasons of fire protection, adapt the supplied aluminium plates to the respective cable outlet according to unit cabling and attach to the bottom plate of the power cabinet.

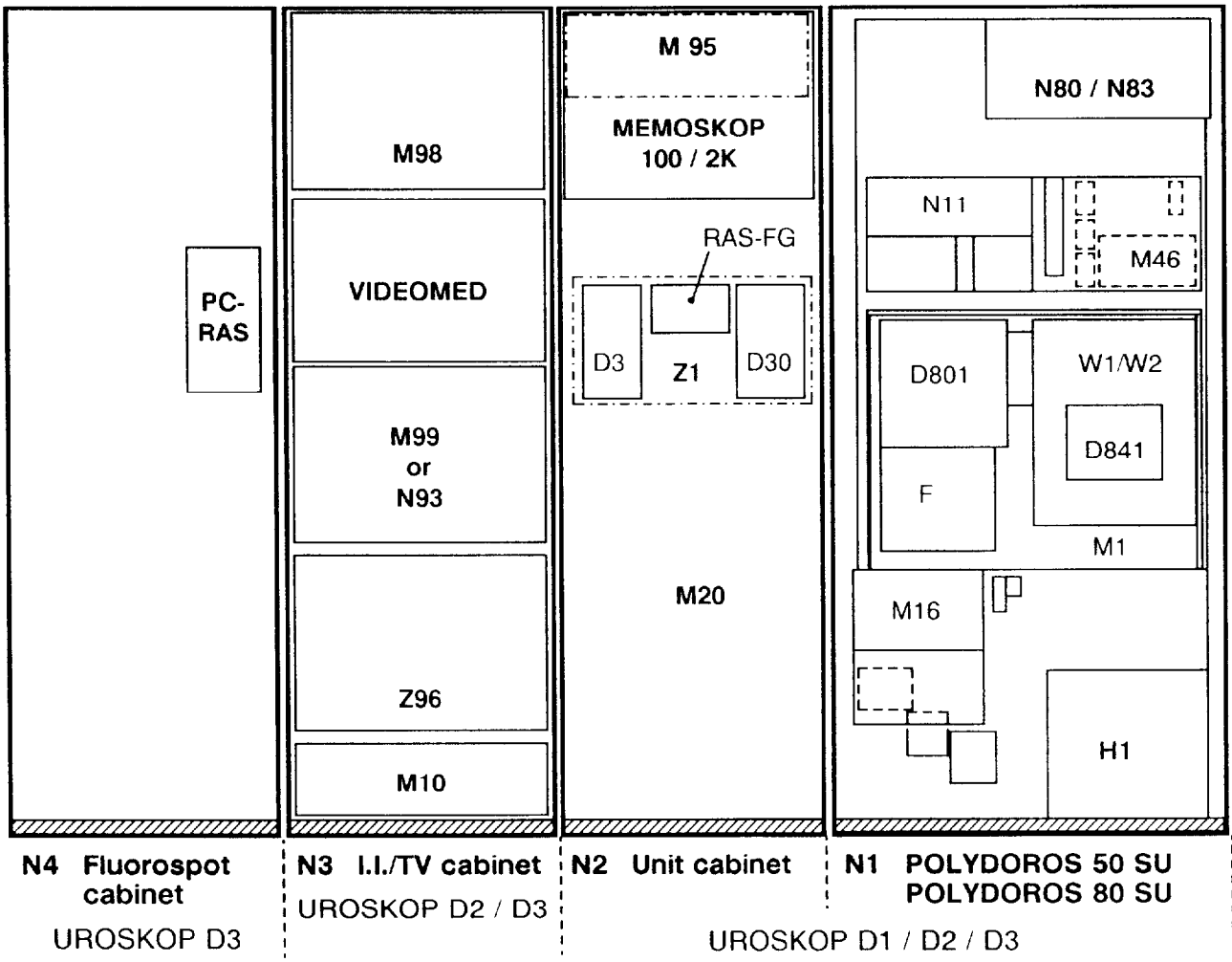
Note: *Insert high-voltage transformer H1 in the power cabinet only after cabling the generator (chap. 3).*

≫ • Check that all boards are firmly inserted.

System cabling

System overview





≫ • Lay out and arrange the cables laterally near the unit.

≫ • Draw all cables of the unit together with the I.I. corrugated hose through the opening of the cable connection box and run to the destinations in cabinets N1, N2, N3 and N4 (see table on page 4-4 and following).
(N3 only with UROSKOP D2 and D3, N4 only with UROSKOP D3)

≫ • Insert the necessary cabinet connection cables from below or laterally in the cabinets and run to the destinations (table!).

• Connect the cables according to plug designation and table and confirm in the right table column with your initials.

Important: *Observe safety notes RA0-000.012.29...*
"Treatment of fiber-optic cables" (Register 2)!

• Secure the plug connections and strain-relief the cables.

Important: *The high-voltage cables from high-voltage transformer H1 to the tube assemblies must not be run upwards within the power cabinet due to possible interference of the electronics system.*

Note: *The cable connections are described more precisely in chapter 4, "cable connections in the power cabinet" !*

UROSKOP D3 cable connection table

Type of cable/function	from	to	ok
Multiplier connection	N3/N93/KK30B	N1/M46/JK2F	
Multiplier connection	N3/N93/KK30B	N1/N10/K8	
Power cable, shielded, 5x	System contactor	N1/M16/K1	
Zipper hose 24-core	**Unit**	N2/M20/X7	
24-core	"	N2/M20/X8	
36-core spec.	"	N2/M20/X5	
24-core spec.	"	N2/M20/X9	
24-core spec.	"	N2/M20/X6	
36-core spec.	"	N2/M20/X4	
spec.	"	N2/Z1/D3/X3	
Ground wire, 6mm²	"	N2/ ⏚	
Ground wire, 6mm²	"	N2/ ⏚	
Ground wire, 16mm²	**Unit** H11	N1/M16/PE	
HV cable	**Unit** H11	N1/H1	
Ground wire 16mm²	N1/ground wire bus	N1/H1/ ⏚	
Inverter	N1/	N1/H1.U1, H1.V1, H1.U2, H1.V2,	
Filament primary lead	N1/D822	N1/H1.11, 12, 21, 22	
Tube selection	N1/D801	N1/H1.50, H1.51, H1.52	
Rotating anode cable	**Unit** H11	N1/N80/AS2.61, AS2.51, AS2.71	
Power cable, shielded 3x2,5mm²	from transformer or from M16/K2	N2/M20/X1/N/L1/ ⏚ and screen	
6mm² ground wire	N1/M16/PE	N2/M20/PE	
Power cable	N1/M16/K3/L1/L2/N	N3/M10/X1/L1/L2/N	
6mm² ground wire	N1/M16/ ⏚	N3/M10/X1/PE	
Power cable	N1/M16/P1	N3/M10/X1/ 5 (bn), 6 (sw), 7 (bl)	
Shutter open phase-synchr.lead	N3/N93/SK111	FLUOROSPOT/SK110/J23	
BAS cable	N3/VIDEOM.H1X/BAS1	FLUOROSPOT/VID_{in}	
Power cable 3x4mm²	System contactor	FLUOROSPOT /TB3-Line	
Ground wire 16mm²	System contactor	FLUOROSPOT / PE	
Ground wire 16mm²	N3/VIDEOMED H1X / ⏚	FLUOROSPOT / PE	
Ground wire 16mm²	N3/M10 / ⏚	FLUOROSPOT / PE	

UROSKOP D3 cable connection table

Type of cable/function	from	to	ok
POLYMATIC connection	N3/M98/SK98	N1/K5	
IONTOMAT for spotfilm dev.	N1/M46/JK2A	N2/M20/JK2	
I.I. corrugated hose	**Unit**	N3/N93/Z48K30A	
"	"	N3/N93/Z48K30B	
"	"	N3/VIDEOMED H1X/K	
"	"	N3/Z96/K1	
"	"	N3/Z96/K5 only to SIRECON 40HD	
"	"	**N3**/M98/K10	
" Ground wire, 6mm²	"	N2/PE	
BAS lead → Live Monitor 1	**FLUOROSPOT** VID_{out}	**MTS I** X11	
IR-remote ctrl. signal lead	" Remote/ J24	**MTS I** FB	
BAS lead → Ref. Monitor 1	" Rev_{out}	**MTS I** X12	
Control lead	" HCC CTL/J29	**Hardcopy**	
Video signal lead	" HCC Image/J26	**Hardcopy**	
Keyboard extension	" Keyboard/J23	**Keyboard** female connector side	
Ground wire 6mm²	**N3**/M10 / ⏚	**MTS I** / ⏚	
Power cable 3x1.5mm²	**N3**/M10/X2/1/6	**MTS I** X1/2/3	
Power cable 3x1.5mm²	**N3**/M10/X2/7/8	**additional monitors**	
Power cable 3x1.5mm²	**N3**/M10/X2/9	**Video printer**	
Power cable 3x1.5mm²	**N3**/M10/X2/8	**MULTISPOT 2000**	
Control desk cable	**N2**/M20/X31	**Control desk** M31A	
Control desk cable	**N2**/M20/X32	**Control desk** M31B	
FOC RAS	**N1**/N11/RAS3/RXD	N4/FLUORO/PC-RAS/U1	
" "	**N1**/N11/RAS3/TXD	N4/FLUORO/PC-RAS/U4	
" "	**N1**/N11/RAS2/RXD	N3/N93/RAS10/U2	
" "	**N1**/N93/RAS10/U4	N2/M20/RASG/U10	
" "	**N1**/N11/RAS2/TXD	N2/M20/RASG/U35	
" POLYDOROS	**N1**/N11/D812/J24/J25	N2/M20/D30/41/42	
" POLYMATIC	**N1**/N11/D870/J161/J162	N3/M98/D6/J1/J2	
Footswitch	Footswitch M32	Unit M1/X1	
Remote control	Remote control M30A	Unit M7	
Remote control	Remote control M30B	Unit M5	

UROSKOP D2 cable connection table

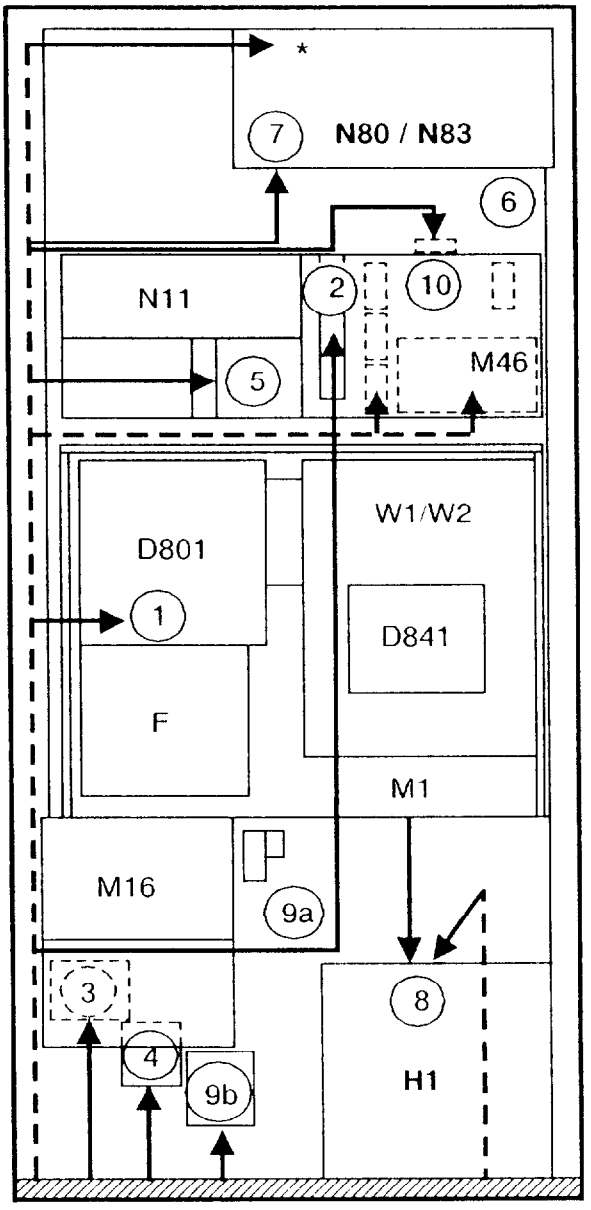
Type of cable/function	from	to	ok
Multiplier connection	N3/M99/KK30B	N1/M46/JK2F	
Multiplier connection	N3/M99/KK30B	N1/N10/K8	
Power cable, shielded 5x	System contactor	N1/M16/K1	
Zipper hose 24-core	**Unit**	N2/M20/X7	
24-core	"	N2/M20/X8	
36-core spec.	"	N2/M20/X5	
24-core spec.	"	N2/M20/X9	
24-core spec.	"	N2/M20/X6	
36-core spec.	"	N2/M20/X4	
spec.	"	N2/Z1/D3/X3	
Ground wire, 6mm²	"	N2/ ⏚	
Ground wire, 6mm²	"	N2/ ⏚	
Ground wire, 16mm²	**Unit** H11	N1/M16/PE	
HV cable	**Unit** H11	N1/H1	
Ground wire 16mm²	N1/ground wire bus	N1/H1/ ⏚	
Inverter	N1//N11/D820	N1/H1.U1, H1.V1, H1.U2, H1.V2,	
Filament primary lead	N1/N11/D822	N1/ H1.11, H1.12, H1.21, H1.22	
Tube selection	N1/D801	N1/ H1.50, H1.51, H1.52	
Rotating anode cable	**Unit** H11	N1/N80/AS2.61, AS2.51, AS2.71 N1/N83/X2.2, X2.1, X2.3	
Power cable, shielded 3x6mm²	from transformer or from M16/K2	N2/M20/X1/N/L1/ ⏚ and screen	
Ground wire 6mm²	N1/M16/PE	N2/M20/PE	
Power cable,	N1/M16/K3/L1/L2/N	N3/M10/X1/L1/L2/N	
Ground wire 6mm²	N1/M16/ ⏚	N3/M10/X1/PE	
Power cable,	N1/M16/P1	N3/M10/X1/ 5 (bn), 6 (sw), 7 (bl)	

Type of cable/function	from	to	ok
IONTOMAT for spotfilm dev.	N1/M46/JK2A	N2/M20/JK2	
I.I. corrugated hose	**Unit**	N3/M99/Z48K30A	
„	„	N3/M99/Z48K30B	
„	„	N3/FZ/K	
„	„	N3/Z96/K1	
„	„	N3/Z96/K5, *only to SIRECON 40HD*	
„	„	**N3**/M98/K10	
„ 6mm², ground wire	„	N2/PE	
BAS lead → Live Monitor 1	**MEMOSKOP 100** Live/X11	**MTS I** X11	
BAS lead → Ref. Monitor 1	**MEMOSKOP 100** Rev/X12	**MTS I** X12	
Control lead	**MEMOSKOP 100** X4	**MULTISPOT** REM_{EXP}	
BAS-signal lead	**MEMOSKOP 100** X10	**MULTISPOT** $Video_{IN}$	
Keyboard extension	**MEMOSKOP 100** D11.X2	**Keyboard** female connector side	
Ground wire 6mm²	**N3**/M10 / ⏚	**MTS I** / ⏚	
Power cable 3x1.5mm²	**N3**/M10/X2/1/6	**MTS I** / X1/2/3	
Power cable 3x1.5mm²	**N3**/M10/X2/7	**additional monitor**	
Power cable 3x1.5mm²	**N3**/M10/X2/9	**Video printer**	
Power cable 3x1.5mm²	**N3**/M10/X2/8	**MULTISPOT 2000**	
Control desk cable	**N2**/M20/X31	**Control desk** M31A	
Control desk cable	**N2**/M20/X32	**Control desk** M31B	
FOC	**Generator cabinet N1**	**Cabinets N2, N3**	
POLYDOROS	N11/D812/J24/J25	N2/M20/D30/41/42	
POLYMATIC	N11/D870/J161/J162	N3/M98/D6/J1/J2	
Footswitch	Footswitch M32	Unit M1/X1	
Remote control	Remote controlM30A	Unit M7	
Remote control	Remote controlM30B	Unit M5	

UROSKOP D1 cable connection table

Type of cable/function	from	from	ok
Netzkabel, geschirmt 5x	System contactor	**N1**/M16/K1	
Zipper hose 24 -core	**Unit**	**N2**/M20/X7	
24-core	"	**N2**/M20/X8	
36-core spec.	"	**N2**/M20/X5	
24-core spec.	"	**N2**/M20/X9	
24-core spec.	"	**N2**/M20/X6	
36-core spec.	"	**N2**/M20/X4	
spec.	"	**N2**/Z1/D3/X3	
Ground wire, 6mm²	"	**N2**/ ⏚	
Ground wire, 6mm²	"	**N2**/ ⏚	
Ground wire, 16mm²	**Unit** H11	**N1**/M16/PE	
HV-cabel	**Unit** H11	**N1**/H1	
Ground wire 16mm²	**N1**/	**N1**/H1/ ⏚	
Inverter	**N1**/N11/D820	**N1**/H1.U1, H1.V1, H1.U2, H1.V2,	
Filament primary lead	**N1**/N11/D822	**N1**/ H1.11, H1.12, H1.21, H1.22	
Tube selection	**N1**/D801	**N1**/ H1.50, H1.51, H1.52	
Rotating anode cable	**Unit** H11	**N1**/N80/AS2.61, AS2.51, AS2.71 **N1**/N83/X2.2, X2.1, X2.3	
Power cable, shielded 3x6mm²	from transformer or from M16/K2	**N2**/M20/X1/N/L1/ ⏚ and screen	
Ground wire 6mm²	**N1**/M16/PE	**N2**/M20/PE	

Type of cable/function	from	to	ok
IONTOMAT for spotfilm dev.	**N1**/M46/JK2A	**N2**/M20/JK2	
BAS-lead → Monitor	**MEMOSKOP 2K** BAS_{OUT}	**Monitor** BAS_{IN}	
Hardcopy-control lead	**N2**/M20/ASK1	**MULTISPOT** REM_{EXP}	
BAS-lead	**MEMOSKOP 2K** BAS_{OUT}	**MULTISPOT** BAS_{IN}	
BAS-lead	**Videoprinter** BAS_{IN}	**MULTISPOT** BAS_{OUT}	
Power cable 3x1,5mm²	**N2**/M95/K1	**Monitor**	
Ground wire 6mm²	**N2**/M95/ / ⏚	**Monitor** / ⏚	
Power cable 3x1,5mm²		**Videoprinter**	
Power cable 3x1,5mm²	**N2**/M95/K1	**MULTISPOT 2000**	
Ground wire 6mm²	**N2**/M20 / ⏚	**MULTISPOT 2000** / ⏚	
Power cable 3x1,5mm²	**N2**/M20/X1	**MEMOSKOP 2K**	
Control desk cable	**N2**/M20/X31	**Control desk** M31A	
Control desk cable	**N2**/M20/X32	**Control desk** M31B	
FOC	**N1**/N11/D812/J24/J25	**N2**/M20/D30/41/42	
Footswitch	Footswitch M32	**Unit** M1/X1	
Remote control	Remote control M30A	**Unit** M7	
Remote control	Remote control M30B	**Unit** M5	



N1 / POLYDOROS 50/80SU

Preparation

- On the fuse board of the M16, loosen the 2 screws (left) and swivel out the fuse board.
- On control rack N11, loosen the screws (left and right) and pull the control rack.
- On the plexiglas protective cover (in front of the inverters), loosen the screws and remove the cover.

Cable routing and connections

- Connect the cables in the power cabinet in the following sequence.

(2) Fiber-optic cable connection

(3) Power connection to generator

(4) Power connection to the units

(5) Control connection, RAS interface

(6) Connection of DIAMENTOR MS

(7) Connection of rotating-anode cables (* with N80)

(8) Connection of high-voltage transformer

(9) Connecting ground wires

(a) internal
(b) external

(10) Connection K5

Fiber-optic cable (FOC)

Important: *Observe safety notes RA0-000.012.29... "Treatment of fiber-optic cables" (Register 1 in logbook)!*

- Run the FOC cable outside to the front below the fuse board of the M16 and upwards to PC board D812, D870, RAS 2 and RAS 3 in control rack N11 (D870 only to UROSKOP D2 and D3, RAS 2 and RAS 3 only to UROSKOP D3);
  provide sufficient cable length to lay over the plexiglas protective cover.
- Attach the strain-relief of the cable to PC board D812.
- Plug the two FOC wires into the FOC connections of the D812 (2) correctly with respect to their colors.

Power connections

- Run the power cable between main distributor and terminal block K1 on power connection M16.

- Connect power cables L1, L2, L3, N, PE to K1.L1, L2, L3, N, ⏚ ;
  ensure connection according to the phases: L1 = sw (between gnye and bl),
  L2 = bn

Note: *With line voltage 480 V, system transformer T4 (extension) must be installed on the rear panel of the cabinet (in power supply M16) and connected according to the wiring diagram.*

- Run the power cables of the unit to be connected or the modules in M16 to terminal blocks K2 or K3 and connect.
  - K2: Voltage is switched with generator **ON** via GS contactor, e.g. for units.
  - K3: Voltage is already switched with system conntactor **ON**, e.g. for TV line power distributor.

- Strain-relief all power cables.

- Place the main control unit on a desk provided by the customer.

- Plug the cable of the FL exposure footswitch at the rear of the unit in the cable connection box (M1) (Fig.19, chapter 5).

- Plug the manual control unit at the rear of the tube support arm and insert in the provided holder.

Connecting the rotating-anode cables

- Run the rotating-anode cables upwards in the left cable duct and to the starter (N80 or N83) (Fig.1).

- Attach the shielding to ⏚ of the starter.

Important: *Do not connect the shielding on the tube assembly side. Connect a separate ground wire cable (≥ 16□) as ground wire for the tube assembly (see installation instructions of the tube assembly).*

- Connect the rotating-anode cables to the starter: AS2.61,51,71 with **N80**
  X2.2,1,3 with **N83**

- Strain-relief the cables.

Connecting and inserting high-voltage transformer H1

- Before inserting the H1, run the high-voltage cables according to designation and from below into the power cabinet.

- Detach the cover over PC boards D45 and D46 on the H1.
  Unscrew the safety brackets (6/Fig.4) from the M16 frame.

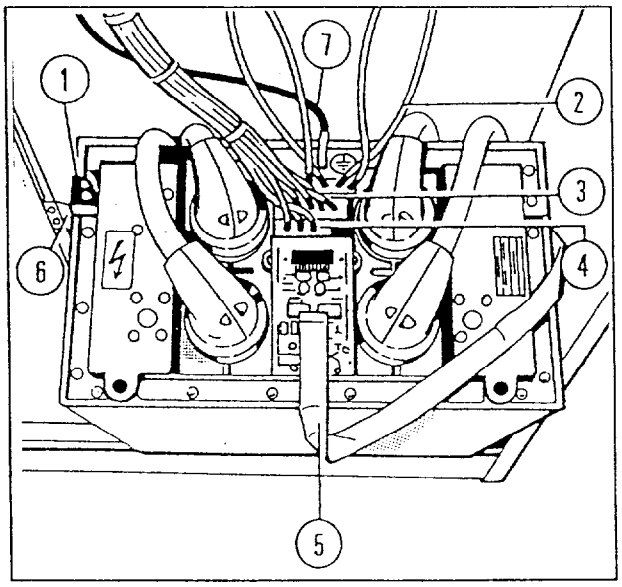


Fig. 4

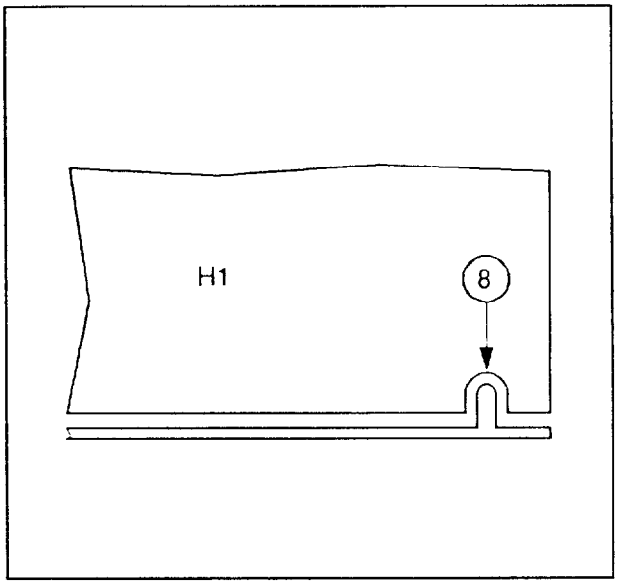


Fig. 5

- Shift the pallet with high-voltage transformer H1 in front of the cabinet.
- Insert the brass rod from the service accessory pack through the two rings on the transformer.
- Insert the H1 in the installation location in the power cabinet;
  make sure that the transformer is inserted correctly in the holders (8/Fig.5) ;
  otherwise it will tilt when swivelling out.
- Reattach safety bracket (6/Fig.4) to the M16 frame.

Primary leads on the high-voltage transformer (Fig.4)

- Swivel out high-voltage transformer H1;
  for this, unlock the locking pin (1) on the left side of the H1 by withdrawing it and swivel the H1 to the front until the locking pin locks in.
- Connect the ground wire cable (16□) coming from the ground wire bus to H1. ⏚ (7).
- Fix the leads of the inverter modules (2) according to designation: H1.U1, H1.V1, H1.U2, H1.V2
- Connect the leads of the cable harness according to designation:
  a) Primary leads of the filament (3) of D822 are plugged into: H1.11,12,21,22
  b) Leads of the tube selection (4) of D801 are plugged into: H1.50,51,52
- Check the oil level (approx. 1 cm) in the high-voltage plug connectors ;
  if necessary, fill up with oil from the H1.

- Check: No jumper must be plugged on PC board D45 in X2.
- Plug the flat ribbon cable (5) of N11.K2 to D46.X1 (X1740-13A) and secure with safety brackets or thin cable tie.
- Reattach the cover over D45/D46.

Note: *The ground wire connection of PC boards D45 and D46 takes place via the mounting screws; these must always in place tightly.*

High-voltage cables

When connecting the high-voltage cables, proceed according to Technical Information R98-031.076.01... "Overview and regulations for high-voltage cables and sealing ends" in the microfilm!

- Run the high-voltage cables upwards from the rear to the H1 and through the holders; for this, unscrew the brackets, insert the cables in the holders and reattach the brackets.

Internal ground wires

- The ground wires of the internal generator subassemblies and the deck are connected to the upper ground wire bus (on the left above the H1) (X1740-5).

External ground wires

- The ground wires of the external components must be connected to the lower ground wire bus in the M16 (on the right near power terminal block K2).

Important: *Run the ground wires in a star pattern to the central ground wire connection point (to prevent interferences caused by ground loops)!*

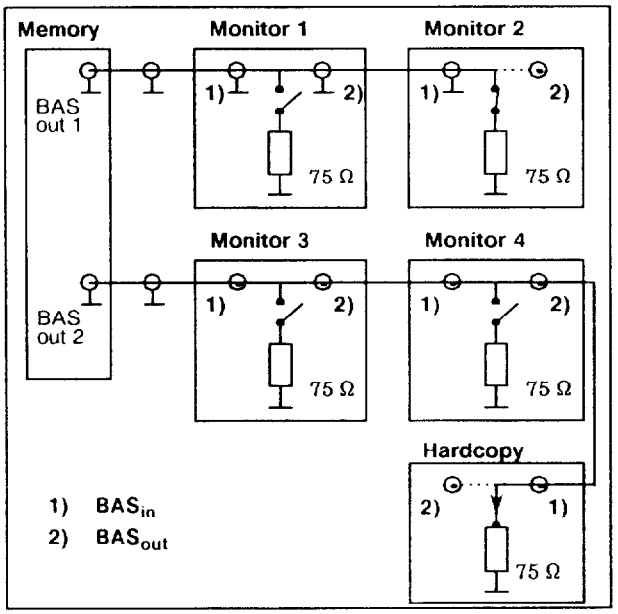


Fig.1

Notes on the further sequence of operations:

You may perform some of the operations described below only after startup of the UROSKOP D, as the unit must be moved into various positions for attaching the cover panels.

- Ensure that video chains are terminated with 75 Ω:

  Example in Fig.1: at monitor 2 and hardcopy

  With the monitor types with BNC sockets, switch on the terminating resistance by means of the Dil switch provided !

- Ensure that the 75 Ω terminating resistances are switched out when other units follow in the video chain:

  Example in Fig.1: at monitor 1, monitor 3 and monitor 4

  With the monitor types with BNC sockets, switch off the terminating resistance by means of the Dil switch provided !

- Swivel all hinged-out modules back into the cabinets and fix.

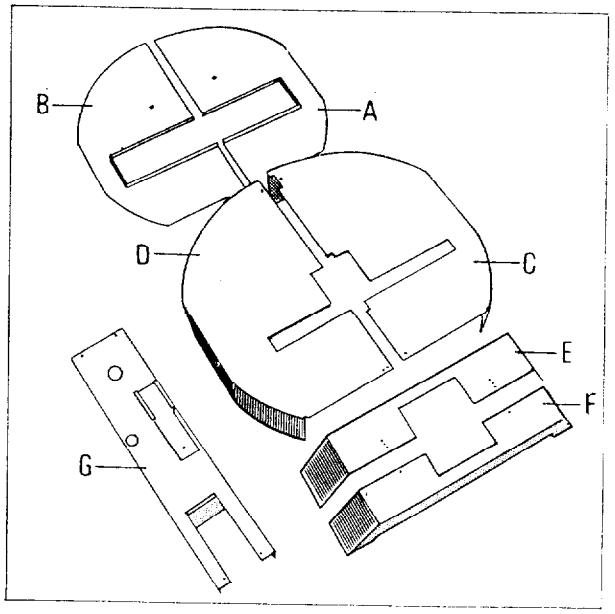


Fig.2

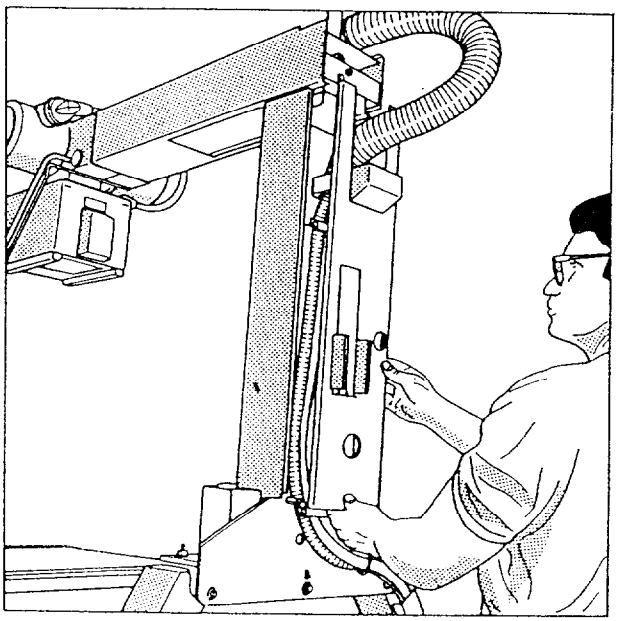


Fig.3

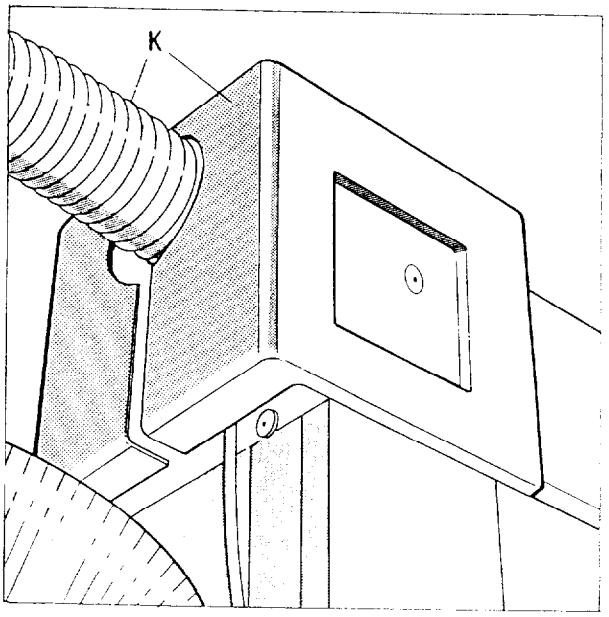


Fig.4

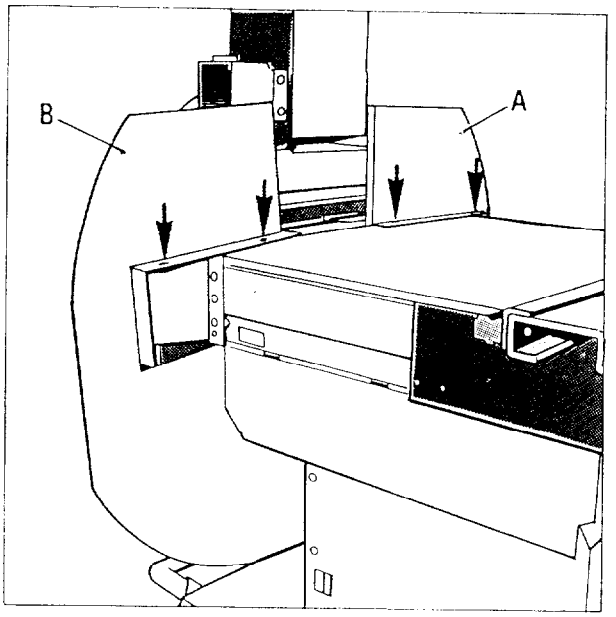


Fig.5

- Make available the cover panels of swivel frames A to F as well as of tube support arms G to H (Fig.2) and unscrew the screws inserted there, if necessary.
- Connect the ground wire to cover panel G of the tube support arm.
- Attach rear cover panel G of the tube support arm (Fig.2/3).
- Install the two angle shells K on the tube support arm (Fig.4).
- Attach cover panels A and B to the front of the swivel frame and fix the top with two cover screws each (↘/Fig.5) .

Attaching the swivel frame cover panels

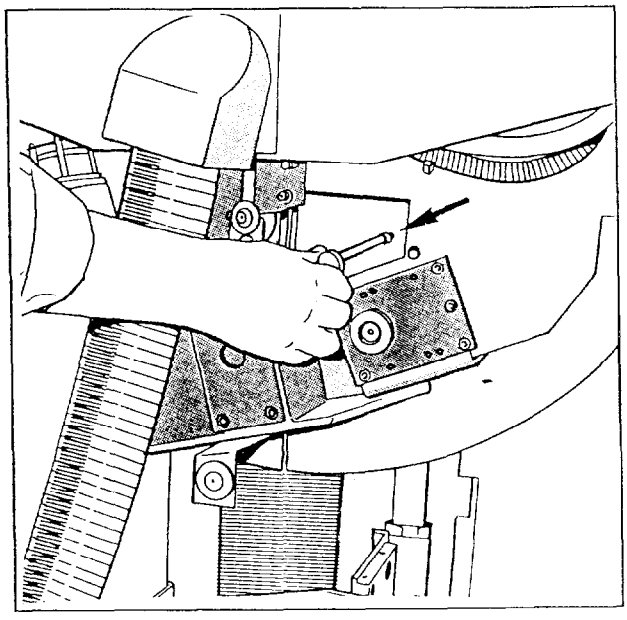


Fig.6

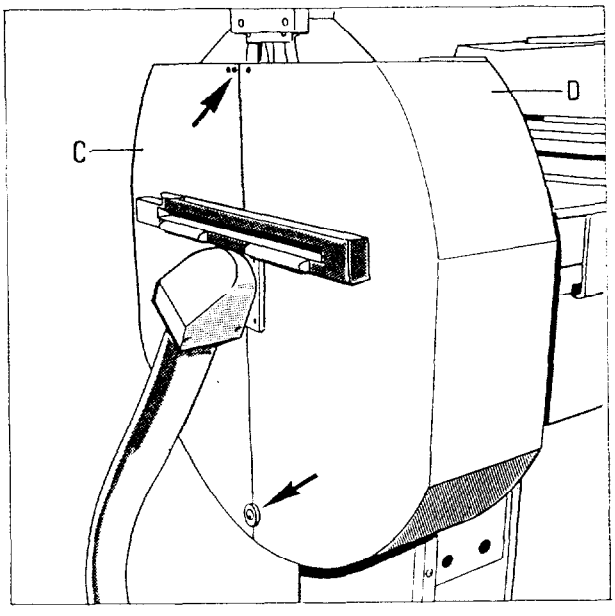


Fig.7

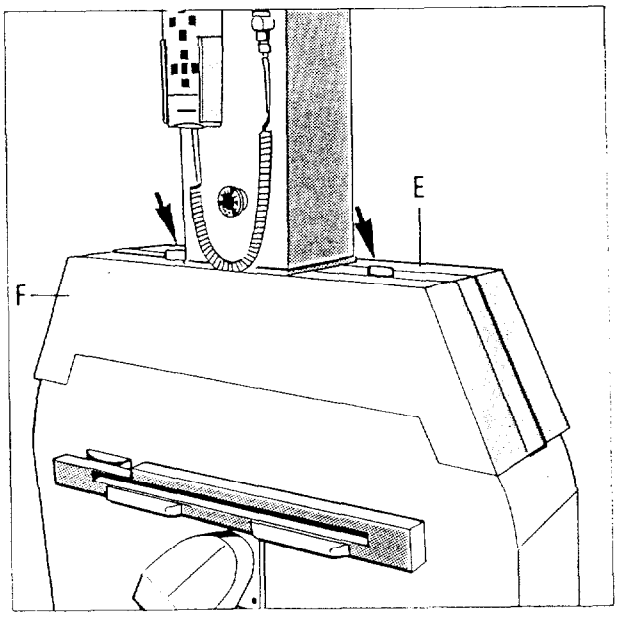


Fig.8

- Attach cover panels A and B from the rear with the Allen screws loosened previously (↘/Fig.7)
- Attach the two cover shells C and D (Fig.2) to the rear of the swivel frame, attach the top (↗/Fig.7) with accessory bracket and fix the bottom (↙/Fig.7) with round plastic connector.
- Attach cover shells E and F (Fig.2/8) to the top of the swivel frame and fix with accessory plastic connectors (↘/Fig.8).

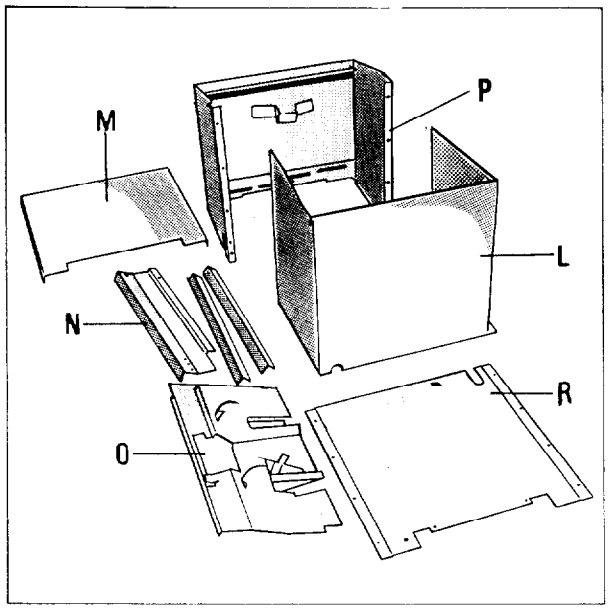


Fig.9

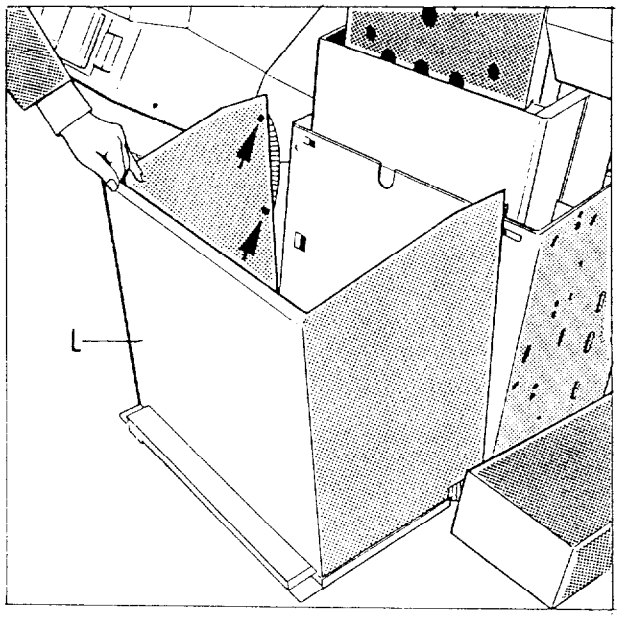


Fig.10

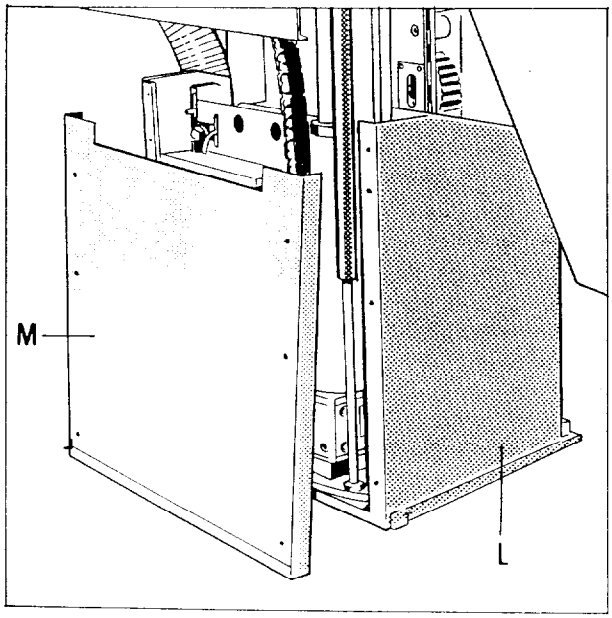


Fig.11

- Switch on the system and move the unit upwards.
- Make available the cover panels of the lifting column L to S (Fig.9) and unscrew the inserted cover screw, if necessary .
- Attach the inner cover panel L to the lifting column (Fig.10).
- Let the 6 thread bolts (↗/Fig.10) welded to cover plate L engage in the lifting column chassis.
- Attach cover plate M to the lifting colum (Fig.11) and attach to the lifting column chassis with 6 screws.

Attaching the lifting column cover panels

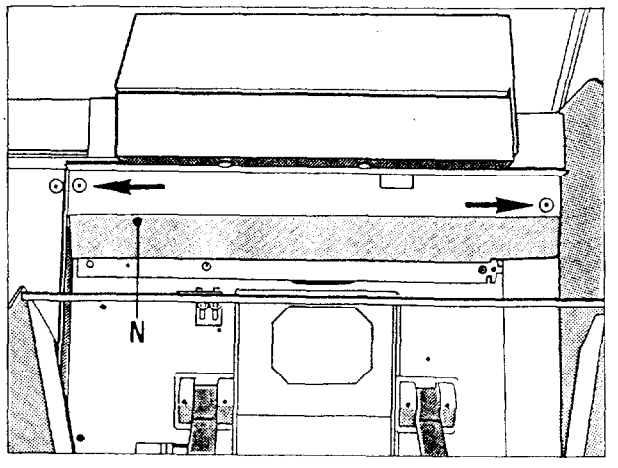


Fig.12

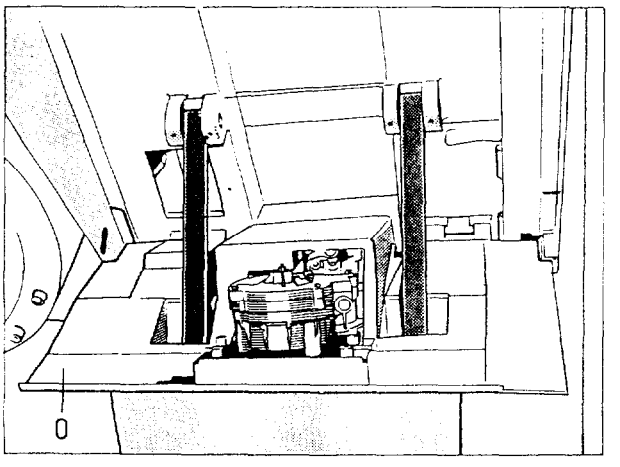


Fig.13

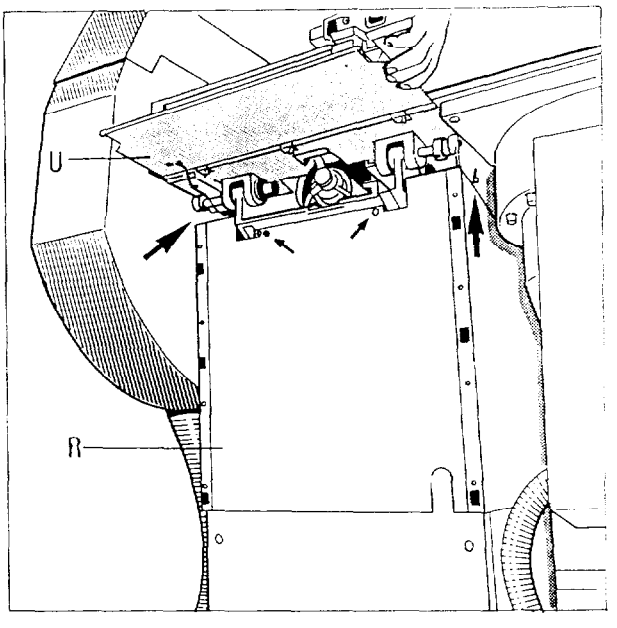


Fig.14

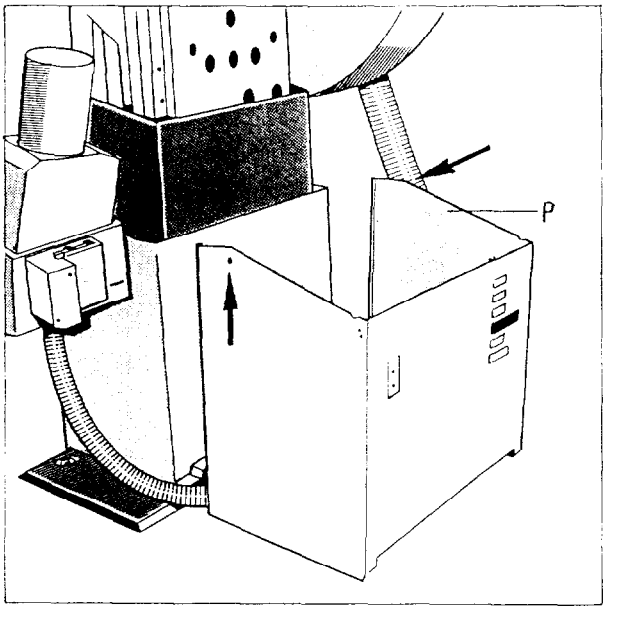


Fig.15

- Tilt the unit in the +88°- position.
- Install cover plate N (Fig.9) on the bottom of the table (↗/Fig.12).
- Place plastic part O (Fig.9) on the lifting column according to its shape and attach with Allen screws (Fig.13).
- Tilt back the unit in the 0°- position and switch off again.
- Attach cover plate R to the lifting column and attach the top with 2 screws; hinge up the flap (U/Fig.14).
- On the opposite lifting column side, attach cover panel P (Fig.9) to cover panel R and fix with 8 M4 nuts (Fig.14);
  let the 2 plastic bolts (↗/Fig.15) engage in the elongated holes (↗/Fig.14) of the screen guide.

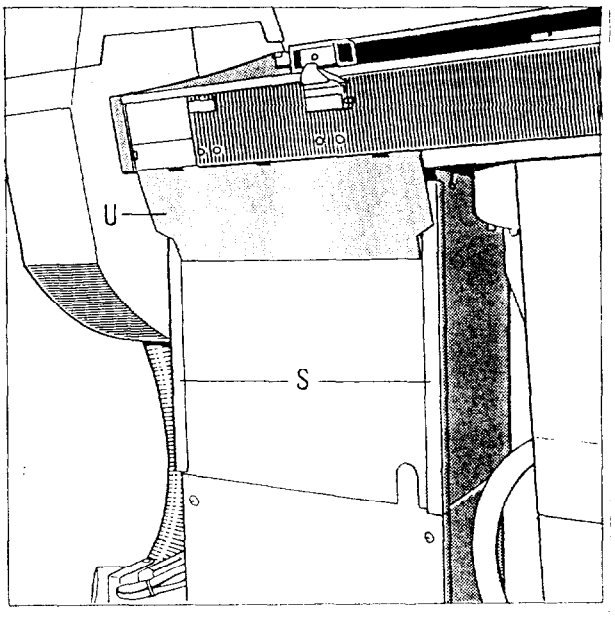


Fig.16

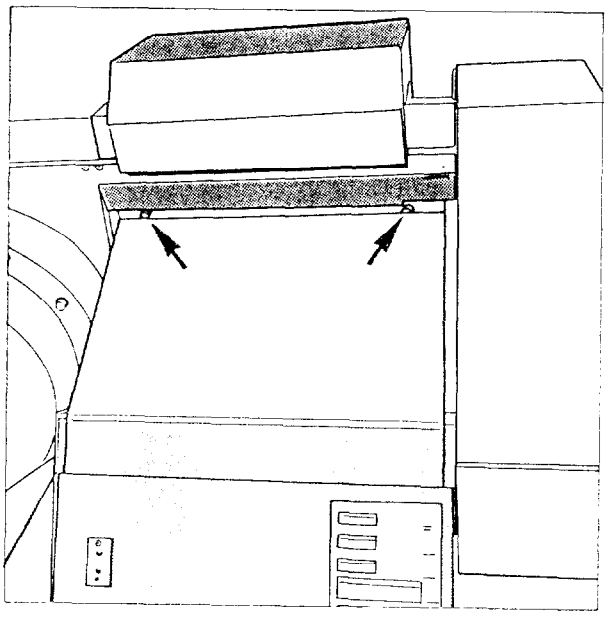


Fig.17

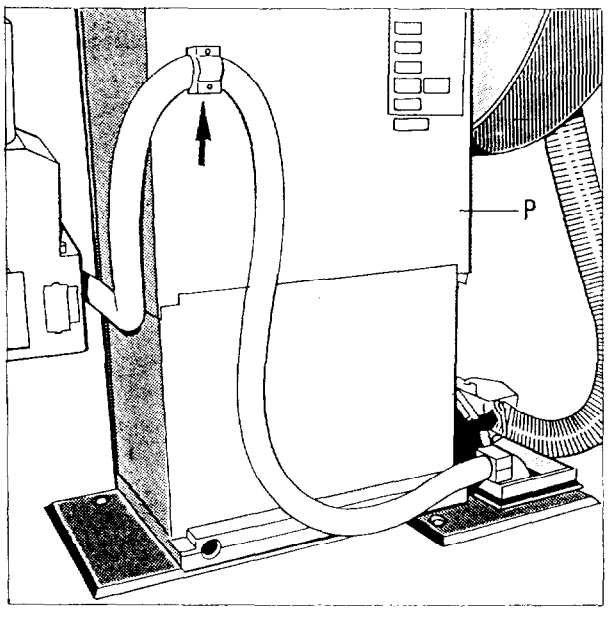


Fig.18

- Hinge flap U down against the lifting column cover (Fig.16).
- Attach the two cover brackets (S/Fig.9) to the two lifting column edges (Velcro tape) so that the bolts of flap U are guided (Fig.16).
- Withdraw the plastic screen from cover panel P and attach the metallic rail to the lower table side (↗/Fig.17).
- Install the corrugated hose holder (↗/Fig.18) on cover panel P and fix the corrugated hose inside so that all unit movements are possible without any impediment.

Attaching other cover panels

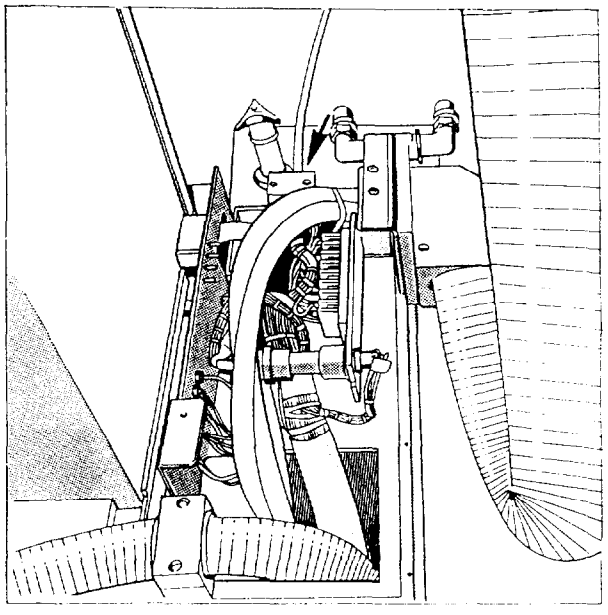


Fig.19

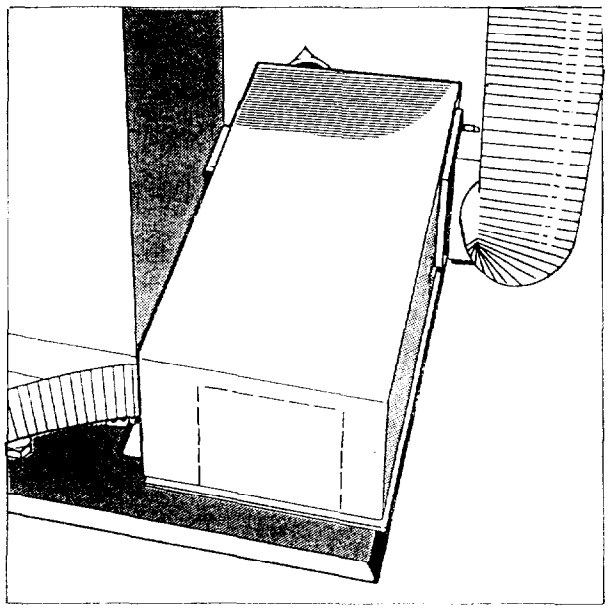


Fig.20

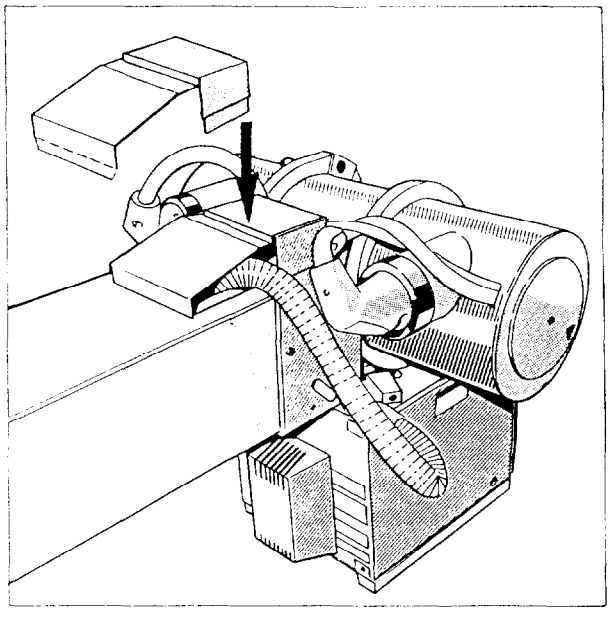


Fig.21

- If not already done, plug the connector of the footswitch connecting lead into socket X1 in the cable distributor and fix the lead in the cable clamp (↗/Fig.19).
- Place the cover on the cable distributor and fix it (Fig.20).
- Clip the cover bracket on the upper tube assembly side(Fig.21); run cables according to Fig.21.
- Connect the ground wire .
- Hook in the front panels of the standard cabinets and attach.

- Check the ground wire connections according to TI 236 with the ground wire test device.

TD RL 3 / Sauter
TD RL1 / Schlee